
LABORATORY
OF THE
INLAND REVENUE DEPARTMENT
OTTAWA, CANADA

BULLETIN No. 336

TINCTURE OF GINGER

CORRECTION.

In Bulletin No. 332, "Raw Linseed Oil", on page 25, the word "genuine" should appear in the margin headed "Remarks and opinion of the Chief Analyst", opposite No. 55342; and all the succeeding samples on that page are genuine.

The omission of the word "genuine" in its proper place makes the opinion recorded opposite No. 55341 appear to apply to the succeeding samples, which is not the case.

A. MCGILL,

Chief Analyst.

NOTES AND COMMENTS.

Under this heading, as occasion arises, the Bulletins issued by this Department will contain, as an appendix, such comment as may seem necessary or advisable upon matters relating to the work of the Department in connection with the administration of the Adulteration Act, the Fertilizers Act, the Feeding Stuffs Act or the Proprietary Medicines Act.

It frequently happens that correspondents ask information regarding the above Acts, of such a nature that the matter in question possesses general interest, and comment upon it would prove acceptable and useful to others than the immediate questioner. In such cases the reply may find a place in these columns. For convenience of reference these notes will be numbered in series.

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BULLETIN No. 336

TINCTURE OF GINGER

OTTAWA, March 29, 1916.

J. U. VINCENT, Esq.,
Deputy Minister of Inland Revenue,

Sir,—The accompanying report has to do with sixty-five (65) samples purchased as Tincture of Ginger, between September and December of last year.

This tincture is a solution of the oleo-resin of ginger in strong alcohol. The British Pharmacopœia prescribes alcohol of 90 per cent; that of the United States, alcohol of 94.9 per cent, both by volume. Unless strong alcohol is employed, the oleo-resin of ginger is not obtained in solution.

Experimental work recorded in Bulletin No. 110, demonstrated that the resins in solution, from different varieties of ginger, may vary from 0.260 per cent. (weight) to 0.499 per cent. Moor (*Suggested Standards*, p. 140) quotes many authorities who find from 0.290 to 0.680 per cent. Siggins (*The National Dispensatory*) finds from 0.480 to 0.700 per cent. T. Barclay (*Pharm. Jour.*, December, 1898) proposes 0.400 per cent oleo-resin as a standard below which a satisfactory tincture should not be recognized.

The specific gravity of the tincture should lie between 0.835 and 0.840. The loss of alcohol in making the tincture need not exceed one per cent. (See Bulletin 110, p. 13).

Reasonable allowance must be made for variation due to the natural differences found in commercial ginger, for losses in manufacture, and in dispensing. With these considerations in mind I would suggest the following limits:—

Specific gravity of tincture.. . . .	0.830 to 0.850
Alcohol content (vol. p.c.)	80.00 to 90.00 +
Oleo-resins, per cent.. . . .	0.250 to 0.700

The limits suggested allow a very wide margin, and it is hoped that experience will justify a closer approximation to a definite standard. Our experience of this article as found on the Canadian market is restricted to reports contained in Bulletins Nos. 34, 110, 179, and the present report.

It is to be remembered that the different pharmacopœias describe alcoholic preparations of ginger, which more or less resemble the B.P. tincture. This last is made with the use of 100 grammes of ginger to 1,000 cubic centimetres of alcohol, or, 1 part by weight in 10 parts by volume.

The U. S. P. tincture, is made with 200 grammes ginger to 1,000 cubic centimetres of alcohol, 1 part by weight to 5 parts by volume.

The U.S. Pharmacopœia (8th revision) describes a Fluid Extract of Ginger, made by the use of 1,000 grammes of ginger percolated with 1,000 cubic centimetres of alcohol, or, 1 part by weight to 1 part by volume.

The British Pharmacopœia of 1885 defined a strong tincture of ginger (essence of ginger) made from 50 parts by weight of ginger and 100 parts of alcohol (volume), or 1 part by weight, to 2 parts by volume.

Finally the Canadian Formulary of 1900, defines a solution of ginger (Liquor Zingiberis) made from 50 parts of the strong tincture, 33.5 parts sugar and distilled water to produce 100 parts by volume.

It is quite apparent from the results of analysis here recorded, that our inspectors have, in many instances, been supplied, with one or other of these preparations, instead of the Tincture.

The following summary gives the results of analysis in brief:—

Samples found to meet legal requirements.	41
" but slightly below requirements.	9
" Essence, not Tincture of Ginger.	13
" below requirements, and adulterated under the Act.	2
Total.	65

I beg to recommend publication of this report as Bulletin No. 336.

I have the honour to be, Sir,

Your obedient servant,

A. MCGILL,

Chief Analyst.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF NOVA SCOTIA—

1915.							
Oct. 20	Tincture of Ginger.	64276	C. A. Barnstead, Halifax, N.S.	12 ozs.	1.30	Vendor.....	
" 27	"	64277	Nat. Drug Co., Halifax, N.S.	12 "	1.02	Vendors.....	
" 28	"	64278	Brown Bros. & Co., Halifax, N.S.	12 "	1.05	".....	
Dec. 7	"	64279	H. E. Wilson, Windsor, N.S.	12 "	1.00	Vendor.....	
" 8	"	64280	L. C. Gardner, Yarmouth, N.S.	12 "	90	".....	
" 8	"	64281	B. F. Trask, Yarmouth, N.S.	12 "	1.00	".....	

DISTRICT OF QUEBEC CITY—

Oct. 6	Extrait Gingembre.	56556	Jos. Masson, 808 St. Valier, Quebec.	12 ozs.	2.50	Parke, Davis Co....	Mfrs.....
" 12	"	56557	Willis, 4 St. Jean, Quebec....	12 "	1.50	Vendor.....	
" 13	"	56558	E. D. Morin & Cie, 113 Cote de la Montagne, Quebec.	12 "	1.50	Parke, Davis Co....	Mfrs.....
" 13	"	56559	V. Giroux, 11 St. Pierre, Quebec.	12 "	2.40	Horners.....	Mfr.....
" 15	"	56570	W. Brunet, 140 St. Joseph, Quebec.	12 "	2.50	Prost Co.....	".....
" 15	"	56560	J. B. Giroux, 387 St. Joseph, Quebec.	12 "	2.75	Frank W. Horner, Montreal.	".....
" 15	"	56561	J. P. Plamondon, 122 St. Joseph, Quebec.	12 "	2.50	.....	
" 15	"	56562	L. E. Martel, 51 St. Joseph, Quebec.	12 "	1.80	Davis, Lawrence Co.,	E. Lachance
" 16	"	56563	M. Dion, 107 Rue Commercial, Quebec.	12 "	2.90	Parke, Davis Co....	Mfrs.....

DISTRICT OF MONTREAL—

Nov. 29	Tincture of Ginger.	67281	J. A. Harte, 148 Notre Dame St. W., Montreal.	12 ozs.	1.20	Vendor.....	
" 29	"	67282	Birk's Pharmacy, 340 Notre Dame St. W., Montreal.	12 "	1.50	Lyman's Ltd.....	
" 29	"	67283	Leduc's Drug Store, Chabouille Square, Montreal.	12 "	1.25	".....	
" 29	"	67284	A. LeBeau, 465 St. James St, Montreal.	12 "	1.50	".....	
" 29	"	67285	Nat. Drug and Chem. Co., Montreal.	12 "	90	Vendors.....	
" 30	"	67286	Davis & Lawrence, Montreal.	12 "	1.00	".....	

TINCTURE OF GINGER.

Inspector's Report. (Is not an expression of opinion.)	Results of Analysis.				No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Sp. Gr. at 16°-5° C.	Alcohol by weight.	Alcohol by volume.	Total Solids.		

R. J. WAUGH, INSPECTOR.

		p. c.	p. c.	p. c.		
.....	0.8309	.....	84.4	0.35	64276	Meets legal requirements.
.....	0.8448	.....	85.92	3.37	64277	Essence of ginger.
.....	0.8267	.....	92.40	0.52	64278	Meets legal requirements.
.....	0.8276	.....	90.80	0.50	64279	" "
Made from Smarts & Co., Fluid Extract. B.P.	0.8341	.....	89.28	0.42	64280	" "
.....	0.8318	.....	89.72	0.52	64281	" "

F. N. W. E. BELAND, INSPECTOR.

.....	0.8542	.....	82.20	4.18	56556	Essence of ginger.
.....	0.8255	.....	92.04	0.41	56557	Meets legal requirements.
.....	0.8564	.....	81.48	5.43	56558	Essence of ginger.
.....	0.8442	.....	86.36	3.00	56559	" "
.....	0.8326	.....	89.36	3.62	56570	" "
.....	0.8445	.....	86.77	2.98	56560	" "
.....	0.9706	.....	29.12	1.21	56561	Adulterated. Alcohol too low.
.....	0.8810	.....	74.32	5.02	56562	Essence of ginger. Alcohol rather low.
.....	0.8470	.....	84.76	4.42	56563	Essence of ginger.

D. J. KEARNBY, INSPECTOR.

.....	0.8509	81.05	86.36	0.76	67281	Meets legal requirements.
.....	0.8717	72.08	78.72	0.17	67282	Resins and alcohol slightly too low.
.....	0.8300	87.25	91.28	0.73	67283	Meets legal requirements.
.....	0.8269	90.32	93.52	0.56	67284	" "
.....	0.8393	85.46	89.84	0.53	67285	" "
.....	0.8417	85.92	90.20	0.54	67286	" "

BULLETIN No. 336—

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF MONTREAL—

1915.							
Nov. 30	Tincture of Ginger.	67287	Chas. E. Frost & Co., Montreal.	12 oz.	1 05	.....	.....
" 30	" ..	67288	Chapman Dart Co., Montreal.	12 "	1 00	.....	.....
" 30	" ..	67289	Parke, Davis & Co., Montreal.	12 "	1.20	.....	.....
" 30	" ..	67290	Lyman, Knox & Co., Montreal.	12 "	1 09	.....	.....

DISTRICT OF OTTAWA—

Sept. 30	Tincture of Ginger.	70526	T. Payment, Dalhousie St., Ottawa.	12 oz.	1 35	Vendor .....	.....
" 30	" ..	70527	Brethour's Drug Store, Bronson Ave., Ottawa.	12 "	1.35	" .....	.....
" 30	" ..	70528	C. H. Lewis, Bay St., Ottawa.	12 "	1.35	" .....	.....
Oct. 14	" ..	70529	Blair C. Roger, Main St., Ottawa East.	12 "	1.35	" .....	.....
" 15	" ..	70530	W. A. Henderson, Bank St., Ottawa.	12 "	1.35	" .....	.....
" 15	" ..	70531	F. W. Day, Bank St., Ottawa.	12 "	1.35	" .....	.....
" 15	" ..	70532	A. J. Brownlee, Bank St., Ottawa.	12 "	1.35	" .....	.....
" 15	" ..	70533	Allan & Cochrane, Bank and Sparks Sts., Ottawa.	12 "	1.35	" .....	.....
" 15	" ..	70534	E. D. Story, Bank St., Ottawa.	12 "	1.95	Nat. Drug Co., Ottawa.	.....
" 19	" ..	70545	P. J. Nolan, Wellington St., Ottawa.	12 "	1.35	Vendor .....	.....

DISTRICT OF TORONTO—

Oct. 25	Tincture of Ginger.	69925	Owl Drug Stores, Ltd, 336 Bloor St. west, Toronto.	12 oz.	1.25	Nat. Drug and Chem. Co., Ltd., Toronto.	.....
" 25	" ..	69927	Tamblyns, Ltd., 972 Bloor St. west, Toronto.	10 "	1.25	Vendors .....	.....
" 25	" ..	69928	W. H. C. Summerfeldt, 1096 Bloor St. west, Toronto.	12 "	1.35	E. B. Shuttleworth Co., Ltd., Toronto.	.....
" 25	" ..	69929	M. P. Rose, 1204 Bloor St. west, Toronto.	12 "	1.00	Vendor .....	.....
" 26	" ..	69930	F. B. Bunting, 221 Wellesley St., Toronto.	12 "	1 00	Unknown .....	.....
" 26	" ..	69931	S. M. Green, 556 Parliament St., Toronto.	12 "	1.00	Vendor .....	.....
" 26	" ..	69932	W. H. Robson, 296 Gerrard St. east, Toronto.	12 "	1 20	Nat. Drug and Chem. Co., Ltd., Toronto.	.....

TINCTURE OF GINGER.

Inspector's Report. (Is not an expression of opinion.)	Results of Analysis.				No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Sp. gr. at 15° C.	Alcohol by weight.	Alcohol by volume.	Total Solids.		

Concluded.

		p. c.	p. c.	p. c.		
.....	0.8292	90.32	93.52	0.39	67287	Meets legal requirements.
.....	0.8819	67.11	74.32	0.32	67288	Slightly below strength in alcohol.
.....	0.8348	85.46	89.84	0.93	67289	Nearly meets legal requirements.
.....	0.8799	67.56	74.72	3.17	67290	Slightly below strength in alcohol. Is essence; not tincture of ginger.

J. A. RICKEY, INSPECTOR.

.....	0.8297	88.81	92.40	0.38	70526	Meets legal requirements.
.....	0.8292	90.88	93.92	0.46	70527	" "
.....	0.8269	50.32	93.52	0.60	70528	" "
.....	0.8251	92.01	94.72	0.35	70529	" "
Made from Burrows & Wellcome's concen- trate	0.8254	90.88	93.92	0.30	70530	" "
.....	0.8279	89.30	92.76	0.59	70531	" "
.....	0.8276	92.56	95.12	0.52	70532	" "
.....	0.8228	88.81	92.40	0.40	70533	" "
.....	0.8398	83.57	88.36	0.52	70534	" "
.....	0.8263	89.36	92.76	0.44	70545	" "

H. J. DAGER, INSPECTOR.

.....	0.8497	80.16	85.64	3.24	69925	Essence of ginger.
.....	0.8240	91.43	94.32	0.47	69927	Meets legal requirements.
Bottle labelled Tincture Ginger fort.	0.8330	87.30	91.28	2.60	69928	Essence of ginger.
.....	0.8365	85.92	90.20	0.82	69929	Meets legal requirements.
.....	0.8985	60.07	68.32	1.99	69930	Alcohol too low and solids high. Adulterated.
.....	0.8281	88.36	92.04	0.54	69931	Meets legal requirements.
.....	0.8403	84.04	88.72	0.52	69932	" "

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.

DISTRICT OF TORONTO—

1915.							
Oct. 26	Tincture of Ginger.	69933	Liggetts, Ltd., 224 Yonge st., Toronto.	12 ozs.	1.00	Unknown	
" 26	"	69934	T. Eaton Co., Ltd., Yonge and Queen sts., Toronto.	12 "	75	Vendors	
" 26	"	69935	The Hennessey Drug Stores, Ltd., 117 Yonge st., Toronto.	12 "	1.25	E. B. Shuttleworth Co., Ltd., Toronto.	

DISTRICT OF VANCOUVER—

Oct. 30	Tincture of Ginger.	55396	Vancouver Drug Co., 405 Hastings st., W., Vancouver, B.C.	12 ozs.	1.20	Vendors	
" 30	"	55397	E. S. Knowlton, 1 Hastings st., E., Vancouver, B.C.	12 "	1.50	Vendor	
" 30	"	55398	Owl Drug Co., Ltd., 399 Powell st., Vancouver, B.C.	12 "	1.20	Vendors	
" 30	"	55399	Capitala Pharmacy, 1100 Davie st., Vancouver B.C.	12 "	1.00	"	
Nov. 1	"	55400	Georgia Pharmacy, 699 Granville st., Vancouver, B.C.	12 "	1.50	"	
" 1	"	55401	David Newall, 994 Granville st., Vancouver, B.C.	12 "	1.20	Vendor	
" 2	"	55402	Woods' Pharmacy, 601 Hastings st., W., Vancouver, B.C.	12 "	1.50	"	
" 2	"	55403	Red Star Drug Store, 53 Cordova st., W., Vancouver, B.C.	12 "	1.00	"	
" 2	"	55404	MacLennan's Drug Store, 750 Columbia st., New Westminster, B.C.	12 "	1.50	"	
" 2	"	55405	H. Ryall, New Westminster, B.C.	12 "	1.50	"	

DISTRICT OF VICTORIA—

Nov. 8	Tincture of Ginger.	66605	John Cochrane, 1300 Douglas st., Victoria, B.C.	12 ozs.	1.25	May & Baker, Ltd., Battersea, London, S.W.	
" 8	"	66606	W. Jackson & Co., 1411 Douglas st., Victoria, B.C.	12 "	1.20	Lymans, Ltd., Montreal.	
" 8	"	66607	Hall & Co., 702 Yates st, Victoria, B.C.	12 "	1.25	Vendors	
" 8	"	66608	Cyrus H. Bowes, 1228 Government st., Victoria, B.C.	12 "	1.25	Vendor	
" 8	"	66609	F. J. Williams, Fort and Government sts., Victoria, B.C.	12 "	1.25	"	
" 8	"	66610	Geo. H. Fraser & Co., 912-914 Government st., Victoria, B.C.	12 "	1.25	Vendors	
" 8	"	66611	W. S. Terry, P.O., Box 504, Victoria, B.C.	12 "	1.20	Nat. Drug and Chem. Co., Victoria, B.C.	
" 8	"	66612	D. E. Campbell, Douglas and Fort sts., Victoria, B.C.	12 "	1.25	Vendor	
" 8	"	66613	Ivel's Pharmacy, 1415 Government st., Victoria, B.C.	12 "	1.20	"	
" 8	"	66614	Aronson & Elwin, Fort & Cook sts., Victoria, B.C.	12 "	1.20	Vendors	

TINCTURE OF GINGER.

Inspector's Report. (Is not an expression of opinion.)	Results of Analysis.				No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Sp. gr. at 15.5° C.	Alcohol by weight.	Alcohol by volume.	Total Solids.		
Concluded.						
		p. c.	p. c.	p. c.		
	0.8538	78.63	84.36	0.68	69933	Meets legal requirements.
	0.8243	92.56	95.12	0.46	69934	" "
	0.8446	82.09	87.16	1.84	69935	Essence of Ginger.
E. J. MORGAN, INSPECTOR.						
Prepared from Concentrated Extract.	0.8253		91.60	0.83	55396	Meets legal requirements.
" "	0.8346		88.20	2.21	55397	Essence of Ginger.
" "	0.8271		90.80	0.80	55398	Meets legal requirements.
" "	0.8506		83.40	1.00	55399	Nearly meets legal requirements.
" "	0.8252		91.00	0.90	55400	" " "
" "	0.8228		91.60	0.68	55401	Meets legal requirements.
" "	0.8332		91.00	0.84	55402	" "
" "	0.8335		88.80	0.75	55403	" "
" "	0.8272		90.00	0.83	55404	" "
" "	0.8320		88.40	0.95	55405	Nearly meets legal requirements.
D. OSULLIVAN, INSPECTOR.						
	0.8293		91.00	0.83	66605	Meets legal requirements.
	0.8255		91.00	1.08	66606	Nearly meets legal requirements.
	0.8431		85.80	0.90	66607	" " "
	0.8230		92.40	0.73	66608	Meets legal requirements.
	0.8261		91.60	0.63	66609	" "
	0.8256		92.20	1.00	66610	Nearly meets legal requirements.
	0.8272		92.20	0.68	66611	Meets legal requirements.
	0.8241		92.20	0.66	66612	" "
	0.8254		92.40	0.65	66613	" "
	0.8538		83.20	0.83	66614	" "